

Study program: Master academic studies Environmental Economics and Climate Change (MASECC)			
Type and level of studies: Master academic studies, II level			
Subject name: Climate Change Modelling		Subject code	6M2MKR
Professor: dr Dušan Mijović, assistant professor			
Subject status: Elective			
Number of ECTS: 6			
Condition: none			
Subject goal The main goal of the course is to familiarize students with the process of making environmental models and methodological approach for their implementation. Understanding the causes of climate change and its consequences. The study of climate change and establishing a database of causes and consequences of climate change. The formation of models of development and functioning of climate change on existing and possible examples.			
Subejct outcome Students aquire knowledge of estabilishing connection, the model, the emergence of climate change, the types of climate change and the consequences of climate change.			
Subject content <i>Theoretical classes</i> Modeling as a methodology. Introduction to the methodology of development and application of ecological models. The importance of simulation models. Linking environmental models with GIS. Global and regional models. Types of climate change. The causes of climate change. The consequences of climate change in the living world. The causes of global warming. Modeling of global warming. Modeling the functioning of global warming on the water cycle in nature. Droughts and floods, forecasting the consequences of droughts and floods. Causes of global cooling. Global cooling, ice age. Modeling of the formation of ice ages and consequences of global cooling. Modeling the functioning of climate change on agriculture. <i>Practical classes</i> The practices will be adapted to lectures.Establishing a model of well known events related to climate change during the development of the Earth. Establishing of possible predictive models but in terms of current trends in climate change and its causes.			
Literature 1. Randall D., Wood R Climate Models and Their Evaluation. https://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter8.pdf p.74 2. Trenberth K., (1992): Climate System Modeling, Cambridge University Press. p. 26 3. Modelling the climate system. Introduction to climate dynamics and climate modelling - http://www.climate.be/textbook p.28			
Number of active teaching classes			Other classes
Lectures: 2(30)	Practices: 2(30)	Other class forms:	Study research paper:
Teaching methods Interactive lectures through presentations and practical classes in terms of audiovisual practices. Simulation workhops and discusiion on the given topic, consultations, colloquium, seminar paper, eritten and oral exam.			
Knowledge evaluation (maximum number of points is 100)			
Pre-exam obligations	points	Final exam	points
Activity during lectures	10	Written exam	30
Practical classes		Oral exam	20
Colloquium	20		
Seminar paper	20		